

REMARKS

The Examiner is thanked for through examination of the present application. The Office Action, however, tentatively rejected the remaining claims 1 and 29-31. In response, Applicant submits the foregoing amendments and the following remarks.

Summary of Rejections

Claim 29 is rejected under 35 U.S.C. 102(b) as being anticipated by Talima (US 6,636,187).

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Toyoda (US 6,448,952) in view of Konno (US 6,940,481).

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tajima in view of Herbert (US 6,014,125).

Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tajima in view of Kurumisawa (US 6,262,704).

Discussion of Claim Rejections

35 U.S.C. 102(b)

Claim 29:

Claim 29 is rejected under 35 U.S.C. 102(b) as being anticipated by Tajima (US 6,636,187). The rejection is respectfully traversed in view of the following:

Claim 29 expressly recites:

29. A display device comprising:

- a display unit that is configured to display data content on a plurality of lines,
- a control unit that is configured to select and scan the plurality of lines based on a select sequence of a plurality of line selection sequences,
- wherein the control unit is configured to select the select sequence based on the data content.

Claim 29 patently defines over Tajima for at least the reason that Tajima fails to teach or suggest the features emphasized above. In this regard, claim 29 defines that the control unit is configured to select a select sequence based on the data content and to select and scan the plurality of lines based on a select sequence of a plurality of line selection sequences. These features are not disclosed in Tajima.

According to column 9, line 57-column 10, line 11 of Tajima: the first address generator 451 generates addresses of the memory 47 according to a Y-electrode scan sequence provided by the first scan sequencer 461. The second address generator 452 generates addresses of the memory 47 according to a Y-electrode scan sequence provided by the second scan sequencer 462. The first and second scan sequencers 461 and 462 provide different Y-electrode scan sequences, i.e., a different power consumption or a different charging and discharging power of the A-driver 42. The detector 481 detects the current or power consumption of the A-driver 42 according to the outputs of the first and second address generators 451 and 452. A smaller one of the outputs detected by the detector 481 is selected by the address selector 453. The output of one of the first and second scan sequencers 461 and 462 corresponding to the output of the address selector 453 is selected by the scan selector 463. If the detector 481 determines that the output of the first address generator 451 leads to smaller power consumption of the A-driver 42, the address selector 453 selects the output of the first address generator 451, and at the same time, the scan selector 463 selects the output of the first scan sequencer 461.

Referring to FIG. 9 of Tajima, the controller 482 receives a detection signal from the detector 481 and transmits control signals to the address selector 453 and the scan selector 463. Thus, the controller 482 selects the select sequence from the scan sequencers 461 or 462 based on power consumption or a different charging and discharging power of the A-driver 42.

In contrast, according to claim 29 of the present invention, the control unit is configured to select a select sequence based on the data content which is displayed by the display unit, and to select and scan the plurality of lines based on the select sequence. These features are not disclosed in Tajima. The controller 482 of Tajima selects the select sequence from the scan sequencers 461 or 462

based on power consumption or a different charging and discharging power of the A-driver 42, not based on the data content displayed by the panel 41.

Insofar as claim 29 is allowable, claims 30-31, all depending from claim 29 and including every claimed element thereof, are also allowable on their own merits in claiming additional elements not included in claim 29.

35 U.S.C. 103(b)

The rejection is respectfully traversed in view of the following:

Claim 11:

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Toyoda (US 6,448,952) in view of Konno (US 6,940,481).

Claim 11 expressly recites:

11. A method of scanning lines in a display, comprising:

selecting a line between a first and a last line of a first set of sequential lines of the display and thereafter alternately selecting and scanning a lower order line and a higher order line relative to the first selected line until all lines of the first set have been scanned, and

selecting a line between a first and a last line of a second set of sequential lines of the display and thereafter alternately selecting and scanning a lower order line and a higher order line relative to the first selected line of the second set until all lines of the second set of lines have been scanned,

wherein a lower order line in the first set is selected simultaneously with a higher order line in the second set and a higher order line in the first set is selected simultaneously with a lower order line in the second set.

Claim 11 patently defines over Toyoda and Konno for at least the reason that Toyoda and Konno fail to teach or suggest the features emphasized above. In this regard, claim 11 defines that the steps of selecting a line between a first and a last line of a first set of sequential lines of the display and thereafter alternately selecting and scanning a lower order line and a higher order line

relative to the first selected line until all lines of the first set have been scanned. Claim 11 further defines that the steps of selecting a line between a first and a last line of a second set of sequential lines of the display and thereafter alternately selecting and scanning a lower order line and a higher order line relative to the first selected line of the second set until all lines of the second set of lines have been scanned. These features are not disclosed in Toyoda and Konno.

In page 4, Office Action states:

“selecting a line (line n in fig. 19) between a first and a last line of a first set of lines ($1 \dots (n+n/2)$) of the display and thereafter alternatively selecting and scanning a lower order line (line $n+1$) and a higher order line (line $n-1$) relative to the first selected line until all lines of the first set have been scanned (fig. 19)”

According to FIG. 19 of Konno, at the beginning, the lines n and $(n+1)$ are scanned simultaneously. After the lines n and $(n+1)$ are scanned simultaneously, the lines $(n-1)$ and $(n+2)$ are scanned simultaneously. After the lines $(n-1)$ and $(n+2)$ are scanned simultaneously, the lines $n/2$ and $(n+(n/2))$ are scanned simultaneously. Thus, the line $(n+1)$ is not scanned after the line n as stated in Office Action, however, instead of, the lines n and $(n+1)$ are scanned simultaneously. After, the lower order and the higher order relative to the lines n and $(n+1)$ are scanned simultaneously, not alternately.

In contrast, according to claim 11 of the present invention, for each set, a line between a first and a last line of a first set of sequential lines is selected, and thereafter a lower order line and a higher order line relative to the first selected line are alternately selected and scanned. These features are not disclosed in Konno. Although Toyoda discloses a display panel 10 divided into lower part 10A having sequential lines $Y1(1) \sim Y1(n)$ and an upper part 10B having $Y2(1) \sim Y2(n)$, because Konno does not disclose the scanning method of claim 11 of the present invention, it would not have been obvious to one of ordinary skill in the art to combine the display panel 10 of Toyoda and the scanning method of Konno to obtain claim 11.


For these reasons alone, Toyoda and Konno do not disclose and suggest the invention of claim 11. Thus, claim 11 is patentable over Toyoda and Konno, and the rejection of claim 11 should be withdrawn.

CONCLUSION

For the reasons and amendments as described above, applicant believes that claims 11 and 29-31 are allowable in their present form. Withdrawal of the rejections and allowance of the claims are respectfully requested. Applicant has made every effort to place the present application in condition for allowance. It is therefore earnestly requested that the present application, as a whole, receive favorable consideration and that all of the claims be allowed in their present form.

Should the Examiner feel that further discussion of the application and the Amendment is conducive to prosecution and allowance thereof, please do not hesitate to contact the undersigned at the address and telephone listed below.

Respectfully submitted,

By: 

Cameron H. Tousi
Registration No. 43,197
VENABLE LLP
P.O. Box 34385
Washington, DC 20043-9998
(202) 344-4000
(202) 344-8300 (FAX)
Attorney/Agent For Applicant